

Detailed Action

This Action is responsive to the Amendments received on 2/26/2008.

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Douglas Holtz on Aug 7th, 2008.

The authorized amendments are stated below:

- (1) In claim 9, line 15 change the following wording:
"the spread code, the 2 chip-times" to
--- the spread code, and said 2 chip-times ---

- (2) In claim 12, line 21 change the following wording:
"chip-times of the spread code, the 2 chip-times" to
--- chip-times of the spread code, and said 2 chip-times ---

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter: The present invention is a device for spread spectrum communication

comprising: a toggle detecting unit which detects a candidate of a toggle point existing in a carrier of a received signal by calculating correlation between the carrier of the received signal and a pre-held expected signal and then searching for positions of phase changing points expected to be in the received signal but whose positions are currently unknown, wherein the received signal is a modulated waveform of the carrier wave itself, and wherein the pre-held expected signal is a signal including a waveform of the toggle point which is expected to be in the carrier of the received signal and is a signal having a length corresponding to 2 chip-times of a spread code or is a signal having a shorter length than 2 chip-times of the spread code, and said 2 chip-times of the spread code being that portion of the expected signal extending from both sides of the toggle point a distance of 1 chip-time; and a demodulating unit which demodulates the received signal by multiplying the received signal by the spread code which is shifted according to a shift amount calculated based on the detected candidate

The closest Prior Art is Sato (US 2001/0036221) shows a similar system which detects a candidate of a toggle point existing in a carrier of a received signal by calculating correlation between the carrier of the received signal and a pre-held expected signal and then searching for positions of phase changing points expected to be in the received signal but whose positions are currently unknown; and said received signal is then demodulated by the spread code which is shifted based on detected candidate. However Sato fails to teach the received signal is a modulated waveform of the carrier wave itself, wherein the pre-held expected signal is a signal including a waveform of the toggle point which is expected to be in the carrier of the received signal

Art Unit: 2611

and is a signal having a length corresponding to 2 chip-times of a spread code or is a signal having a shorter length than 2 chip-times of the spread code, and said 2 chip-times of the spread code being that portion of the expected signal extending from both sides of the toggle point a distance of 1 chip-time. The distinct feature have been added to the independent claims 9 and 12, therefore rendering them allowable.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES M. PEREZ whose telephone number is (571)270-3231. The examiner can normally be reached on Monday through Friday: 9am to 5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James M Perez/

Examiner, Art Unit 2611

8/18/2008

/Shuwang Liu/

Supervisory Patent Examiner, Art Unit 2611